A72.E678
JACC March 9, 2010
Volume 55, issue 10A

IMAGING AND DIAGNOSTIC TESTING

IMPACT OF TOTAL CORONARY CALCIUM SCORE ON PROCEDURAL AND LONG-TERM OUTCOMES IN PATIENTS WHO UNDERWENT PERCUTANEOUS CORONARY INTERVENTION WITH DRUG ELUTING STENTS: 3 YEARS FOLLOW-UP

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: CT Coronary Calcium and Noncoronary CT Applications
Abstract Category: CT Coronary Calcium and Noncoronary CT Applications
Presentation Number: 1041-249

Authors: *Youngkeun Ahn, Hae Chang Jeong, Jum Suk Ko, Min Goo Lee, Keun Ho Park, Hyun Ju Yoon, Nam Sik Yoon, Hyung Wook Park, Kye Hun Kim, Young Joon Hong, Myung Ho Jeong, Jeong Gwan Cho, Jong Chun Park, Jung Chaee Kang, Department of Cardiology, Chonnam National University Hospital, Gwangju, South Korea, Heart Research Center of Chonnam National University Hospital, Gwangju, South Korea*

Background: Multi-detector computed tomography (MDCT) is a sensitive method for detecting coronary artery calcium. The total coronary calcium score measured by MDCT can be used independently to predict major acute coronary events. But the correlation between the total coronary calcium score and long- term clinical outcomes in patients who underwent percutaneous coronary intervention (PCI) with drug eluting stents (DES) is uncertain.

Methods: Enrolled in this study were 286 consecutive patients (60.9 ± 9.9 years, 181 males) who underwent both 64-Slice MDCT with calcium score and PCI with DES. Procedural outcomes and major adverse cardiac events (MACEs) during 3 years clinical follow-up were compared between low score group (total coronary calcium score ≤ 400, n=195) and high score group (total coronary calcium score ≥ 400, n=91).

Results: The low score group was 65 (33.3 %) stable angina pectoris (SAP), 124 (63.6 %) unstable angina pectoris (UAP), 6 (3.1 %) acute myocardial infarction (AMI) and high score group was 26 (28.6 %) SAP, 60 (65.9 %) UAP, 5 (5.5) AMI (p=0.421). The baseline clinical characteristics were similar between two groups including risk factor of atherosclerosis, electrocardiographic and echocardiographic findings. There were more chronic total occlusion (CTO) lesion and diffuse lesion in high score group (7.2 % vs. 13.2 %, p=0.005 and 8.2 % vs. 12.1 %, p= 0.015). The procedural success rate was higher in low score group (97.4 % vs. 86.8 %, p<0.001) and intimal dissection was more common in the high score group (2.6 % vs. 7.7 %, p<0.001). The incidence rate of MACE during 3 years clinical follow-up was higher in high risk group (5.1 % vs. 26.4 %, p<0.001). The each composition of MACE [cardiac death (1.0 % vs. 4.4 %, p=0.044), re-PCI (4.6 % vs. 13.2 %, p=0.010), coronary artery bypass graft (0.0 % vs. 12.1 %, p<0.001)] were all higher in high score group.

Conclusions: Total coronary calcium score measured by MDCT was associated more with chronic and significant coronary lesion and coronary calcium score ≥ 400 may be used to predict lower procedural success rate and poor long-term clinical outcomes.